Region 22 700 MHz Minnesota Planning Committee

WTB Docket 02-378

Region 22 -- 700 MHz Regional Plan

Region 22 700 MHz Minnesota Planning Committee

September 28, 2005

Office of the Secretary
Federal Communications Commission
Marlene H. Dortch
Secretary
445 12th Street, SW
Washington, DC 20554

Subject: WTB Docket 02-378, Region 22 -- 700 MHz Regional Plan

Attached please find an original and five copies of the 746-776/796-806 MHz Regional Plan for Region 22. If you have any questions, please contact the Regional Chairperson at 651-430-7601.

Thank you,

Steve Pott, Chair - Region 22
Washington County Sheriff's Office
15015 62nd Street North
Stillwater, MN 55082-3801

Region 22 700 MHz Minnesota Planning Committee

REQUEST FOR WAIVER OF CONSENT FROM ADJACENT REGION WHEN ADJACENT REGION IS UNFORMED Or UNRESPONSIVE

Region 22 requests a waiver of Rule Section 90.527(a)(5) which requires that written consent be obtained from all adjacent 700 MHz Regional Planning Committees. Region 22 is adjacent to Regions 15, 32, 38, and 45. The Regions to which Region 22 is adjacent, and the status of that Region's 700 MHz RPC is shown in the following table:

Region #	RPC Status	Consent Obtained
Region 15	Formed	Yes
Region 32	Unformed	No
Region 38	Unformed	No
Region 45	Formed	Yes

Region 22 has made every reasonable effort to contact and obtain the consent of all adjacent Regions. Region 22 has received consent from all adjacent 700 MHz RPCs except for Regions 32 and 38, which are unformed at this time.

Region 32 has selected Rick Hessinger as convenor but has not yet established a date for the first meeting. Region 22 has provided a copy of its Regional Plan to Mr. Hessinger for his review, and the committee's review after the Region has convened. Region 38 has selected Todd Dravland as convenor but has not yet established a date for the first meeting. Region 22 has provided a copy of its Regional Plan to Mr. Dravland for his review, and the committee's review after the Region has convened. Both states are involved in large VHF projects, and do not anticipate convening a 700 MHz meeting in the near future.

Both regions felt comfortable that their needs have been addressed, because Region 22 adopted the NPSTC frequency assignments.

Region 22 has obtained signed Inter-Regional Dispute Resolution Agreements from Region 15 and Region 45

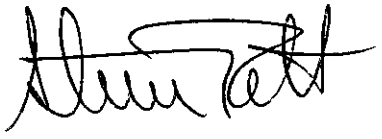
Because Regions 32 and 38 are unformed, Region 22 is unable to obtain a signed Inter-Regional Dispute Agreement at this time. Once Regions 32 and 38 have formed, Region

22 will contact the respective Chairperson to determine a mutually agreeable dispute resolution agreement.

By following the planning procedures described above, Region 22 believes that Regions 32 and 38 will have sufficient spectrum to meets its needs when it elects to commence 700 MHz Regional Planning. 700 MHz spectrum is available for immediate licensing and implementation within Region 22 as soon as its Plan has been approved by the FCC. Eligible entities are already designing systems, and waiting to license the 700 MHz frequencies that have been assigned to them.

For these reasons, Region 22 asks that the FCC waive the requirements of 90.527(a)(5) (signed consent and a signed Inter-Regional Dispute Resolution Agreement) as it relates to Regions 32 and 38.

Respectfully submitted,



Steve Pott, Chair - Region 22
Washington County Sheriff's Office
15015 62nd Street North
Stillwater, MN 55082-3801

Region 22 700 MHz Minnesota Planning Committee

REGION 22
(MINNESOTA)

REGIONAL PLAN

FILED WITH THE FCC PER WT DOCKET 02-378

FOR THE USE OF 700 MHZ PUBLIC SAFETY CHANNELS

PER

FCC WT DOCKET 96-86

MINNESOTA REGION 22 PLANNING COMMITTEE

SEPTEMBER 28, 2005

Table of Contents

1.0 REGIONAL CHAIRPERSON

The Region 22 Planning Committee held an initial meeting January 8, 2001 at the Minnesota Department of Transportation, Arden Hills Training Center. A Chair, Vice Chair and Secretary were elected. The officers elected were:

Chair

Steve Pott, Chief Deputy
Washington County Sheriff's Office
15015 62nd Street North
P.O. Box 3801
Stillwater, MN 55082-3801

Steve.pott@co.washington.mn.us

651-430-7615

Vice Chair

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Mn/DOT Electronic Communications
Transportation Building
395 John Ireland Boulevard
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651-296-7402

Secretary/Treasurer

Michele Tuchner, Captain
Minnesota State Patrol
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651-582-1514

2.0 RPC MEMBERSHIP

The By-laws adopted (Attachment 1) by the Region 22 committee were written to allow and encourage broad participation by all interested parties. The section of the by-laws that deals with membership and voting reads as follows:

> For purposes of this Article, the term "member," unless otherwise specified, refers to both voting and non-voting members.
>
> **Number, Election and Qualification.** The Regional Committee shall have two classes of members, "voting members" and "non-voting members." New members may be added at annual, special, or regular meetings.
>
> **Voting Members**. Voting members shall consist of one representative from any single agency engaged in public safety eligible to hold a license under 47 CFR 90.20, 47 CFR 90.523 or 47 CFR 2.103, and the Metropolitan Radio Board. Except that a single agency shall be allowed no more than one vote for each distinct eligibility category (e.g. police, fire, EMS, highway) within the agency's organization or political jurisdiction. In voting on any issue the individual must identify himself/herself and the agency and eligibility category that he or she represents.
>
> **Non-Voting Members.** Non-voting members are all others interested in furthering the goals of public safety communications.
>
> **Tenure.** In general, each member shall hold MEMBERSHIP from the date of acceptance until resignation or removal.
>
> **Powers and Rights.** In addition to such powers and rights as are vested in them by law, or these bylaws, the members shall have such other powers and rights as the membership may determine.
>
> **Suspension and Removal.** A representative may be suspended or removed with cause by vote of a majority of members after reasonable notice and opportunity to be heard.
>
> **Resignation.** A representative may resign by delivering written resignation to the chairman, vice-chairman, treasurer or secretary of the Regional Committee or to a meeting of the members.

With the opportunity to represent ones' agency at any given time, attendance at the meetings varied depending on the agenda items. Those voting members attending at least one meeting are listed in Attachment 2.

The Officers of the Region 22 RPC were originally defined as:

> **Number and qualification.** The officers of the Regional Committee shall be a chairman, vice-chairman, secretary/treasurer and such other officers, if any, as the voting members may determine. The officers must be voting members of the Regional Committee.

Due to poor attendance and the inability to assemble a quorum at many of the meetings, the Board was increased to allow the Board to conduct business if a quorum was not present. The following language change was approved at the April 8, 2003 RPC meeting:

> The Board of Directors shall consist of 7 members, one Chair, one Vice-Chair, one Secretary/Treasurer, and four directors, representing five different service types (Police, Fire, EMS, Transportation, etc), and three different levels of government (State, County, City, etc).

A quorum was originally defined as:

At any meeting of the members, a quorum exists when the following minimum roster is met:

Two Officers of the Regional Planning Committee
Five separate governmental entities
Five different service types (i.e. Police, Fire, EMS, Public Works, etc)
Eleven voting members

The definition of a quorum was changed, at the April 8, 2003 RPC meeting, to read:

> At any meeting of the members, a quorum exists when the following minimum roster is met:
>
> One of the following Board Members: Chair, Vice-Chair, or Secretary/Treasurer
> Five separate governmental entities
> Five different service types (i.e. Police, Fire, EMS, Public Works, etc)
> Nine voting members

If the minimum roster is not met, a majority of the members of the Board, one member must be Chair, Vice-Chair, or Secretary/Treasurer, shall constitute a quorum.

Quorum of the minimum roster group governs over the actions of Board alone. The minimum roster quorum can over rule action of Board; however the Board is empowered to act upon issues when a quorum of voting members does not attend a meeting.

3.0 DESCRIPTION OF THE REGION

Region 22 is defined as the entire State of Minnesota. Minnesota is in the north central United States. Near the geographic center of North America, it is bordered on the north by the Canadian provinces of Manitoba and Ontario, on the west by North Dakota and South Dakota, on the south by Iowa, and on the east by Wisconsin and Lake Superior.

The area of Minnesota is 86,943 sq mi, of which 4,780 sq mi is inland water and 2,546 sq mi is a portion of Lake Superior under the state's jurisdiction. Minnesota thus ranks 12th in area among the 50 states. From north to south the state measures 406 mi, and from east to west it measures 358 mi at its maximum extent and about 180 mi at its narrowest point. The mean elevation is about 1,200 ft.

There are 87 counties, more than 2700 cities and townships as well as 11 tribal governments. There are five major cities in Minnesota comprising about 19% of the total population (2000):

Minneapolis -	382,700
St. Paul (Capitol)	288,000
Duluth	86,044
Rochester	91,264
Bloomington	85,400

The Minneapolis/St. Paul metropolitan area is comprised of 7 counties and has a total population of 2,642,056 (53.7% of entire State population). Hennepin County, the state's largest, has a total population of 1,116,200 (22.5% of entire State population). The growth rate in the metro area from 1990 to 2000 was 15.4%. The metro area is located in the east central portion of the State, on the Minnesota/Wisconsin border. The neighboring Wisconsin counties, Polk, St. Croix, and Pierce, are also experiencing rapid growth. St. Croix County is most accessible to the metro area via I-94, and has seen an 11% population growth in the last three years.

According to the 2000 census, the following demographics describe Minnesota:

Total Population: 4,919,479

State Rank in Population: 21st

Highest Point - Eagle Mountain - 2,301 feet (701 m) above sea level

Lowest Point - 602 feet above sea level at Lake Superior

Number of rivers and streams: 6,564 (92,000 miles).

Number of lakes (over 10 acres): 11,842 (4,967,510 acres).

The State of Minnesota has 87 counties. There are 486 police departments and Sheriff's Offices in the State. Of the 486 agencies, 400 have fewer than 25 officers/deputies. 13 agencies have more than 100 officers/deputies. The total number of full time licensed peace officers in Minnesota is 9,295. Minnesota has 567 fire departments, 309 EMS providers, and more than 1000 maintenance and public works organizations.

The Region 22 RPC will be administering the interoperability (I/O) channels. Local, regional and statewide mutual aid agreements exist throughout the State. Cooperative planning efforts have been undertaken in the past to facilitate interoperability in the VHF and UHF bands. The fire plan, EMS plan, MIMS plan, and the MINSEF plan are a few examples of the more widely recognized agreements. It would be nearly impossible to compile all of the mutual aid agreements that exist in the State for the purpose of this report. Police, fire, and EMS agencies within the region frequently train and respond with one another, and the need to communicate between agencies exists on a daily basis, in some areas.

Nearly all agencies in the region operate a VHF radio system for primary voice communications. There are some UHF systems in use, particularly in the metropolitan St. Paul/Minneapolis area. Commencing in 1999, a region wide 800 MHz trunked radio system was constructed in the 7 metro counties plus the adjoining Chisago and Isanti counties to the north. The largest users of the system currently are the State Patrol, Department of Transportation, Metropolitan Council, Anoka County, Hennepin County, Carver County, and the City of Minneapolis. In 2003, the availability of significant federal grant money has increased the number of agencies migrating to the region wide system. It is anticipated that Ramsey County, the Metropolitan Airports Commission, as well as several larger cities in the metro area will be using the system by mid-2005. The system is currently being extended to the cities of St. Cloud and Rochester. Additional agencies are expected to participate in the future. The intent of the system is to provide a communications network for all public safety and public service entities, thereby facilitating reliable interoperability.

Until recently, the State had four primary channels used for interoperability within a service type: MINSEF – Statewide police (155.475), Statewide Fire (154.295), Statewide EMS (155.340), and MIMS/Point to Point (155.370). There was also a UHF Metropolitan emergency frequency in use by some of the large agencies in Hennepin and Ramsey counties. In addition to the features inherent with a wide area trunked system, the development of the region wide 800 MHz system included several different enhancements to interoperability in the metropolitan area. Two additional VHF repeater channels have been constructed to facilitate communication between VHF users and 800 MHz users. Three of the 800 MHz interoperability channels (ICALL and ITAC 4)

now have equipment installed and operating to facilitate communications with 800 MHz users traveling through the area.

The FCC recently allocated eleven 12.5 KHz VHF channels and four UHF channels to facilitate interoperability, but we are not aware of them being widely used in the Region:

VHF	UHF
151.1375	453/458.2125
154.4525	453/458.4625
155.7525	453/458.7125
157.2250	453/458.8625
157.2500	
157.2750	
158.7375	
159.4725	
161.8500	
161.8250	
161.8750	

4.0 NOTIFICATION PROCESS

The notification process for the RPC meetings was primarily accomplished through e-mail. The original meeting included a notice published in the State Register, the APCO Bulletin (Attachment 3) as well as notification to the Minnesota Sheriff's Association and the Minnesota Chiefs of Police Association. Subsequent e-mails were distributed to all attendees and re-distributed to e-mail lists of interested persons. At the time of this 700 MHz planning process, the metro area 800 MHz system was completed and put into operation. Mn/DOT was also working to implement a statewide 800 MHz system. As part of these efforts, radio communications issues were at the forefront for most Public Safety agencies. Meeting notes were taken at each meeting (Attachment 4).

Our original understanding was that the tribal police agencies were notified through their association with the Minnesota Chiefs of Police Association. It was discovered in 2003 that several of the tribal police agencies were not members of the Association, and therefore have likely not learned of the planning process. A letter was sent to the Minnesota Indian Affairs Council after that discovery was made (Attachment 5).

The Division of Homeland Security and Emergency Management (HSEM) is a division of the Minnesota Department of Public Safety. A member of the HSEM attended the initial meeting. The Department of Transportation maintains and operates the communications system for the Department of Public Safety. The Department of Transportation has been an integral part of the planning process.

The meetings were originally scheduled for the second Wednesday of each quarter at 10:00 am. The day was changed to the second Tuesday of the quarter, beginning July,

2002, due to a conflict with regularly scheduled meetings involving members of the Metropolitan Radio system. The meetings were moved to different locations around the State, to encourage participation by agencies in greater Minnesota. The meetings were also available throughout the State at the Mn/DOT District Offices through a state-wide video-conferencing system. Regardless of the location of the "live" meeting, participation was typically limited to a core group of attendees from in and around the St. Paul/Minneapolis area. As the process progressed, the "live" meetings were held in St. Paul, but we continued to broadcast them throughout the state, with limited participation at the remote sites.

5.0 REGIONAL PLAN SUMMARY

5.1 Description of the Planning and Approval Process

The FCC directed the Chairman of the 800 MHz NPSPAC committee to schedule an initial meeting of a Regional Planning Committee (RPC), to establish a plan for allocation and use of these new 700 MHz frequencies. Notices for the meeting were published more than 60 days in advance of the meeting in several venues such as the APCO public safety magazine, the Federal Register, the Minneapolis Star and Tribune news paper. Notices were also distributed at the state APCO training conference and posted on the local chapter web site. Notices were also distributed using existing e-mail lists to parties involved in previous radio planning processes.

The initial meeting was held January 8, 2001, and despite the broad distribution of the notices, there was relatively low attendance. Temporary officers were elected at the first meeting, and the by-laws and officers were finalized at the following meeting. The committee has been meeting quarterly, and notices have primarily been distributed through e-mail following the initial meeting. The meetings were originally held around the State, but eventually held in St. Paul at the Department of Transportation Central Office due to lack of participation by agency representatives from greater Minnesota. These meetings were available throughout the State using Mn/DOT's video-conferencing system.

A work group was formed and discussed some of the more technical aspects of the Plan, presenting their work at the quarterly meetings. Preliminary allocations and technology options were discussed at meetings prior to completion of the NYSTEC model allocation plan. Discussions were also held regarding the use of the State licensed frequencies. After the NYSTEC plan was received, it was reviewed, and a determination was made that Region 22 RPC would not modify that plan.

The Plan was widely distributed via e-mail and printed copies. Comments and concurrence were solicited from adjacent RPC's.

5.2 Deliberators for a Fair and Open Planning Process

The entire planning process was open and we were actively recruiting participation throughout. Despite the typically low turnout, we had a broad representation from different service types (ie police, fire, EMS, transportation). Most of the attendees represented metro area agencies, with occasional attendance from agency representatives from out-state Minnesota. The greatest pressure for additional frequency allocations exists in the metro area, and most out-state areas have all or most of the NPSPAC channels available for use.

5.3 Structure and Procedure for RPC Operation

The RPC structure and procedure for operations were defined by the by-laws (Attachment 1).

5.4 700 MHz Public Safety Spectrum

The Region 22 channel allocation pre-coordinates general use narrowband and wideband data channels including low power and interoperability channels. As per Section 8 and the pre-planning flow-chart of Appendix G, page 62, the plan allots general use channels to geographic areas bounded by county borders. Channels have been coordinated within the region and with adjacent regions. The Regional Plan discusses various methods of increasing spectral efficiency including system sharing, contour analysis and "orphan channel" distribution procedures. The Region 22 RPC has been designated to administer the interoperability channels in accordance with the NCC's recommendations. Region 22 license application and processing procedures are described and documented by the coordination flowchart of Appendix G, page 63.

The basis of the planning process is the FCC's 700 MHz band plan per the fourth MO& O in WT DKT96-86 (TV channels 63/64 and 68/69). The band plan is detailed in the matrix of the Appendix listed under 700 MHz Plan Documents.

The Narrowband channels are designated in 6.25 kHz blocks and can be aggregated to 25 kHz. The wideband channels are designated in 50 kHz blocks and can be aggregated to 150 kHz. TV channels 63/64 are comprised of two segments of 480 base channels and one segment of 120 wideband base channels. The base channels of the channel pair begin at 764 MHz and end at 776 MHz. TV channels 68/69 are also comprised of two segments of 480 base channels and one segment of 120 wideband channels. The mobile channels of the channel pair begin at

794 MHz and end at 806 MHZ. A comparison of 700 MHz and 800 MHz NPSPAC Public Safety Channels is shown in Attachment 6.

The Region 22 allotment for the channels of the FCC's 700 MHz band plan is discussed in section 8 and shown as a listing of channels per county and counties per channel in Attachments 7 and 8. The most current listing can be found on the CAPRAD data base.

5.5 Spectrum Allotment Procedure

The goal of the Region 22 RPC was to balance the need for efficient assignment of the limited channels available with the ability of each eligible entity to maintain autonomy, if they choose. The RPC acknowledges that larger, regional systems with many users provide a more efficient use of the channels, but also acknowledges the desire of some agencies to maintain an independent system. The RPC felt that if no resources were allocated to individual eligible entities, some agencies may choose to continue to operate a VHF or UHF system, making interoperability with neighboring agencies less efficient. At the same time, the RPC wanted to encourage radio planning at a county-wide or larger level.

The County government is encouraged to develop a plan for the use of the 700 MHz channels within their area. If a county plan is submitted to, and approved by, the RPC within 5 years following the adoption of the Region 22 RPC Plan, channels may only be licensed consistent with that plan for a maximum period of 8 years following the adoption of the Region 22 Plan by the FCC. If no plan is developed, the county will have exclusive licensing authority for only the initial 5 years following the adoption of the Region 22 Plan by the FCC. After 5 years (if no county plan is approved) or 8 years (if a county plan is approved), any eligible entity within the County may apply for a license.

Region 22 supports the National Coordination Committee's pre-assignment rules and recommendations listed in the Appendix under Technical Reports. The RPC will notify counties that county pool allotments are available upon FCC approval of the plan.

5.6 NCC Guidelines

In general and unless otherwise noted Region 22 will adhere to the published National Coordination Committee Implementation Guidelines, for 700 MHz Public Safety Regional Planning Committees. The Regional Planning Committee has established a process to approve applications and interpret the plan.

5.7 Channel Usage Guidelines

Narrowband general use channels are allotted to geographic areas bounded by county borders per the NYSTEC methodology described in detail in section 8. These channels can be licensed by counties, municipalities or other public safety eligibles within the county, subject to the timetable described in section 5.5. The RPC supports and promotes multi-agency systems that allow for regional/wide area coverage within the region.

5.8 Usage Guidelines

All systems operating within the Region having five or more channels will be required to be trunked. Exceptions will be permitted on the trunking requirements only when a substantial showing is made that alternative technology would be at least as efficient as trunking or that trunking would not meet operational requirements. Exceptions will not be granted routinely, however, and strong evidence showing why trunking is unacceptable must be presented in support of any request for exception.

Those systems having four or less channels may be conventional or trunked although as counties experience rapid growth in the future it may be prudent for both economic an operational considerations that counties pool their channels and implement a multi-county trunked system.

Public Safety communications at the State level, as it impacts the Region, will be reviewed by the RPC. Statewide public safety agencies will submit their communications plans for review if they utilize communications systems within the Region and those portions of such systems must be compatible with the Regional plan.

Where smaller conventional 700 MHz needs are requested, those frequencies to be utilized must not interfere with the region's trunked systems. The 700 MHz trunked radio system is to be considered the higher technology at this time and in greater compliance with FCC guidelines. The amount of interference that can be tolerated depends on the service affected. Personal life and property protection shall receive the highest priority and disruptive interference with communications involved in these services in an area shall not be tolerated. Any co-channel interference within an authorized area of coverage will be examined on a case by case basis by the RPC.

5.9 Statewide Trunking Plan

The Statewide trunking project is a significant planning effort which encourages the development of a multi-agency, multi-tasking shared network on a statewide basis. Current plans are to augment 800 MHz with 700 MHz channels at sites where there are insufficient 800 MHz channels to meet loading requirements. This plan will assist agencies in complying with the usage guidelines described in this document. Agencies planning to use 700 MHz channels are encouraged to review the progress of this project and plan their systems accordingly.

Authority

Minnesota Statute 403.36 defines the requirements and establishes the authority for the Departments of Public Safety, Transportation and Administration to develop a plan for a statewide, shared, trunked public safety radio system. Under directive from the 2002 legislature a Statewide Planning Committee was created and subsequently approved a plan for implementing a statewide shared trunked radio system.

Plan

The purpose of the statewide radio project, also known as the Allied Radio Matrix for Emergency Response system (ARMER) is to improve safety, security, and mobility of the public by providing a reliable communication system that meets the needs of state agencies and their local government partners. By creating partnerships with other units of government and public service organizations there will be improved interoperability between the levels of government and the sharing of resources to build a statewide communication infrastructure on which to move into the future in an integrated, practical and strategic way.

The infrastructure will be designed around open standards to insure additional public and private entities have the opportunity, and are in fact encouraged, to plug-in to the statewide infrastructure as it is completed. As the system is completed throughout various regions, it is anticipated that the added capacity of a statewide infrastructure will provide the opportunity for integration and full interoperability of public safety communication.

Phased Implementation Plan and Schedule

The first phase of the state infrastructure has been completed as part of the Metropolitan Radio Board system. As local government participation in the metro system (Phase Two) continues, the State will proceed with the phased deployment of state backbone systems in greater Minnesota

(phases Three-Six). Each phase will consist of implementing components of the system within two to three complete State Patrol districts. For operational purposes, complete districts will be converted to the new system, rather than portions of a district or specific highway corridors.

The work to be completed during each phase consists of constructing and or installing the following components: towers, 700/800 MHz base stations, Interop base stations (VHF), controllers, switching equipment, and microwave transmitters/receivers.

Special consideration will be given to the interoperability system (Interop) that will be needed to permit communications between users of the new 700/800 MHz trunked system and the users who choose not to migrate or join the new system. An attempt will be made to use the available 800 MHz channels first, if technically viable.

- Phase Three- Phase Three will begin in FY2004. This phase will provide coverage throughout 23 counties in the Rochester and St. Cloud Patrol districts.

- Phase Four – Phase Four, which will begin in FY2005 or one year after the start of Phase Three. This phase will cover the Duluth and Brainerd Patrol districts. The two districts cover 12.5 counties (half of St. Louis Co.)

- Phase Five – Phase Five will begin in FY2006 or 1 year after the start of Phase Four. This phase encompasses three Patrol districts – Mankato, Marshall, and Detroit Lakes. This phase will include 31 counties.

- Phase Six – Phase Six, will begin in FY2007 or 1 year after phase Five begins. This phase will cover the Virginia and Thief River Falls Patrol districts. These two districts include 11.5 counties.

State License

A geographic license with call sign WPTZ762 has been issued to the State of Minnesota for forty-eight 25 KHz channels allocated by the FCC for state government use. The State is currently in the process of assigning the channels utilizing the CAPRAD database to present or potential tower locations for the ARMER system. Each tower site is assigned a group consisting of four 12.5 KHz channels, except for the major metro sites which are assigned two channel groups. The statewide plan uses a channel grouping format similar to the Northeastern states. That format as described under 700 MHz Plan Documents of the Appendix, Northeast

Option, is modified to accommodate a 12.5 KHz channel distribution as per Attachment 9. Adopting the Northeast format is intended to facilitate coordination with adjacent regions.

5.10 Periodic Re-Evaluation of Allotments

To accommodate population change, changing technologies and to maximize spectrum efficiency, a periodic re-evaluation of allotments and assignments is anticipated. The RPC shall conduct a formal documented review of the plan every five years after its initial acceptance by the FCC. This process will insure an opportunity for agencies that have an immediate spectrum need and the funding to implement a system without delay. It will also provide a mechanism to periodically review all un-constructed frequency assignments.

5.11 Interoperability Channels

The narrowband voice and data interoperability channels (sixty-four at 6.25 KHz bandwidth) are defined on a nationwide basis. Appendix A - Corrected shows the designation of these channels as defined by the 700 MHz National Coordination Committee (NCC). Since they are nationwide channels, each channel must have the same usage within each region and across regional borders.

Within the 12 MHz of spectrum designated for high capacity, wide bandwidth (50 to 150 kHz) channel usage, there are eighteen 50 kHz (or six 150 kHz) channels designated for wideband interoperability use.

Agencies requesting 700 MHz frequencies must either construct its own interoperability capability or include a Memorandum of Understanding per Appendix B from another agency demonstrating that interoperability will be accomplished.

5.12 Administration of Interoperability Channels

The Region 22 Planning Committee has assumed the responsibility for administering the interoperability channels per the NCC's standards and recommendations as described in section 6. A plan for these channels should include, but not be limited to interoperability operations on the 700 MHz interoperability channels. VHF and UHF narrowband interoperability channels of the Public Safety pool (90.20) will also be administered. The RPC may hold licenses on interoperability channels for all infrastructure and subscriber units within the state. The RPC may delegate the administration of the licensing responsibility to the State. The RPC will oversee the administration and technical parameters of the interoperability channels within the State.

5.13 Low Power Channels

The FCC has designated twenty-four 6.25 kHz channel pairs for low power use for on-scene incident response purposes with transmitter power not exceeding 2 watts (ERP). Eighteen channel pairs are to be assigned on a non-exclusive basis and are to be shared by all public safety eligible.

Channels 9-12 paired with 969-972 and 959-960 paired with 1919-1920 are set aside Nationwide for itinerant use. Operation on these channels may include analog modulation with an aggregation of two channels for 12.5 kHz bandwidth allowed. Project 25Common Air Interface is required for digital mode of operation on these channels.

Temporary base and mobile relay stations are allowed for on scene operation with an antenna height limit of 5.1 meters above ground.

Additional 700 MHz exclusive Scene of Action (SOA) channels for specific applications were not designated since six have already been assigned by the Region 22 NPSPAC Committee for the ARMER project described in section 5.9. It is anticipated that radios will be capable of both 700 and 800 MHz operation so the need is fulfilled by the following NPSPAC SOA channels;

NPSPAC Pair	SOA Use
825	All Users
826	All Users
827	Public Safety 1
828	Public Safety 2
829	Fire & EMS only, portables only
830	Fire & EMS only, portables only

5.14 Incumbent Co-Channel and Adjacent Channel Broadcast TV Stations

There are no full power TV or digital television stations (DTV) on channels 62 through 69 (758-806) in Minnesota or in bordering areas of adjoining states.

There are 51 low power (LPTV) and translators (TX) in the state including three channels in the Minneapolis – Saint Paul metropolitan area. Several additional stations are near Minnesota in bordering states. These types of stations are secondary and must cease operation if they cause harmful interference when a primary service, like land mobile comes into operation. The secondary LPTV stations already on channels 63 through 69 cannot apply for the new class A protection status.

A list of TV licenses can be found at the FCC's video division's TV query web site, www.fcc.gov/gov/fcc-bin/tvq?state.

The RPC will support an applicant's effort to remove a TV station by working through the FCC. See sample notifications by RPC to secondary TV stations in Appendix AA.

Canadian TV and DTV assignments must be considered if located near the border. The FCC will permit interim authorization at locations north of line A (90.7) or within 75 miles of the Canadian border as per 90.533. Public Safety transmitters must not cause harmful interference to Canadian TV stations and must comply with interference protection criteria in Section 90.545 for TV/DTV stations in Canada.

Public Safety stations must accept any interference from Canadian broadcast stations. The terms of licenses may change subject to an US-Canada international agreement.

5.15 Protection Ratios

There are two protection ratios to be considered for coordinating general narrowband channels. One is for the co-channel case; the other is for the adjacent channel case. The ratio provides 35 dB desired/undesired signal ratio for co-channel assignments and 20 dB desired/undesired ratios for the adjacent channel case. These ratios are described in section 8 and are recommended by the National Coordinating Committee.

5.16 Channel Loading Requirements

Applicants must show compliance with the minimum-loading table, shown as follows. This may be done in accordance with the extended implementation Section 90.629 of the Commissioner's rules.

Minimum Loading Table:

		Units per Channel	
		Conventional	Trunked
a.	"Emergency" use (Police, Fire, Medical)	70	100
b.	Non-"Emergency" use (all others)	100	130

While these quantities are considered appropriate for most typical systems, it must be realized that the ratio of channels needed to the quantity of mobile/portable units is not necessarily linear as the quantity of mobile units increases in large trunked systems. Justification for the

number of requested channels in larger systems should not be solely based on the quantity of mobile and portable units expected to be used in the system. A mathematical calculation, similar to that used in the telephone industry for trunked circuit system design that takes into consideration such things as the "busiest hour" and "message length". "Number of units in service", "unit call rate", and "grade of service" may be required to further substantiate the desired channels assignments.

The RPC will approve an application based on the applicant's demonstration of compliance with the minimum loading requirements or by providing a loading schedule as required by the FCC to meet the extended implementation rule.

5.17 CAPRAD Database

The Regional Planning Committee will use the NLECTC/CAPRAD frequency allocation database, specifically designed for use in the 784-776/794-806 MHz public safety band. This database contains both frequency and pre-assignment information. The RPC will use the database to review adjacent Region's pending and/or complete pre-assignments for assistance in completing their respective plans. The FCC's designated public safety frequency advisors will use the CAPRAD database during the application process (pre-coordination). Frequency advisors, as well as RPC's are required to maintain the database as the applications are processed and granted by the commission.

5.18 Re-Assignment of Frequencies

All applicants for 700 MHz spectrum must submit a plan for the abandonment of any currently licensed frequencies under 512 MHz that are presently being used for the activity to be conducted on the new 700 MHz channels.

The Regional Planning Committee will have the freedom to consider below-700 MHz public safety bands in further development of regional plans, but the licensing of channels in these bands would continue to be conducted through existing frequency coordination procedures.

Lower band frequencies being replaced by 700 MHz channels cannot be automatically retained or "handed down" to another agency in their respective jurisdiction. Such re-use of frequencies can only be accomplished through the regular procedures, followed with a new application.

The time frame allowed for phasing out of lower band frequencies and into 700 MHz will normally be one (1) year. Any agency requiring more than

one year must provide documents stating the reasons for the delay and give the estimated time of completion. Such extensions are subject to approval by the FCC.

5.19 FCC License Applications

The following describes the procedure and information required when submitting FCC license applications. All applicants must obtain approval by the RPC before the frequency coordination process can proceed. To request channels from Region 22 a full application package must be submitted online to the NPSTC sponsored CAPRAD database at http://caprad.nlectc.du.edu/login/home The application must include an FCC form 601 and the supplemental information required when submitting applications. Supplemental information may be provided to the Regional Chairman by mail if it cannot be provided on-line. The following supplemental data must be provided for the coordinator's use to determine compliance with the Regional Plan.

1. A statement that describes the purpose of the proposed radio equipment, for example is it a replacement for an existing system, a new communications system, or a modification to an existing system?
2. A description of the applicants legal jurisdiction such as "the County of _____". A map, such as a county highway map or a U.S. geological or topographical map should be used to draw an outline of the applicant's jurisdiction.
3. The proposed location of the base station(s) must be marked on the map.
4. An accurate, graphic illustration on the map of the 40 dBu contour expected from each base station. In certain situations the RPC may require an interference prediction map using the current version of TIA/EIA TSB88 guidelines.
5. A statement describing the proposed loading of the channel(s) being requested. Quantities, that can be verified, of vehicles, mobile radios, portable transceivers and control stations that will be using the system must be listed along with the projected dates by which they will be placed in service. Portable transceivers should be in two categories, (1) those used full time as the sole communicating device for the bearer and (2) those used only part time to supplement a vehicle installed radio unit or other part time usage.
6. A list of "orphaned channels" as per Section 8.8. It is expected that these channels will be returned to the database and be reassigned by the RPC.

7. A list of any lower band frequencies that will be replaced by the projected 700 MHz system.
8. The manner in which "interoperability" with other jurisdictions, will be accomplished.

5.20 RPC Application Approval

The Regional Planning Committee will designate a person(s) to screen applications to determine compliance with the Regional Plan. If there are issues of non-compliance, the RPC will convene a frequency meeting to resolve the issues. Upon successful review, the Regional Chair, *or designee*, will approve the application and submit it through the CAPRAD database to the applicant's preferred FCC Certified Coordinator for processing. For most applications the review process will be completed within 20 working days. The CAPRAD database will reflect the approved application and place the channels for the proposed system in "pre-license status". In case of a conflict, the coordinator will return the application to the applicant with a copy to the planning committee. It is expected that the three parties will work to resolve the conflict.

5.21 FCC Approval

Upon issuance of the license by the FCC, the coordinator will update the coordinator database with actual license parameters. If after twelve months (or longer for slow growth) the FCC does not receive construction notification from the licensee, the coordinator will delete this license from the database.

5.22 Construction Requirements

An applicant will have twelve months to place a system in operation and to confirm compliance with the construction/coverage requirements. Construction may be extended up to five years if application is made pursuant to section 90.155 (b), which permits local government entities a longer period for placing a station in operation where the applicant submits a specific schedule for the completion of each portion of the entire system, which has been approved and funded for implementation in accordance with that schedule. The applicant must file FCC form 601, main form and schedule K, with the Commission no later than 15 days from the applicable construction/coverage deadline. See 47 C.F.R. section 1.946 (d).